

# BLOOM Nanobubble Generator



## TYPICAL APPLICATIONS

- Deep Water Culture
- Shallow Water Culture
- NFT
- Drip Irrigation
- Inline Aeration
- Water Tank Aeration
- Reservoir Aeration
- Algae Control
- Biofilm Control

The patent-pending Moleaer Bloom is a highly efficient gas-injection technology that converts bulk oxygen into nanobubbles and supersaturates irrigation water with high levels of dissolved oxygen (DO). Negatively charged, neutrally buoyant nanobubbles can remain suspended in water for long periods of time, acting like an oxygen battery that delivers oxygen to the entire body of water. As oxygen is consumed, the nanobubbles continue to diffuse more oxygen into solution, sustaining supersaturated levels of DO, even in warm water. Moleaer's Bloom is an economical and highly effective tool to improve water quality, increase plant growth, and suppress root disease and environmental stress.

The Bloom comes with a self-priming, enclosed impeller pump for maximum flow and energy efficiency. The system is whisper-quiet and corrosion-resistant. The Bloom can be upgraded with a smart controller and integrated DO sensor to allow real time monitoring and system control. Available in 25, 50 and 150 gpm flow rates, the Bloom was designed for durable operation, easy installation, and simple control.

## FEATURES & BENEFITS

- 90% standard oxygen transfer efficiency
- Supersaturated irrigation water
- Improved water quality
- 100 nm-sized bubbles produced in excess of 1 billion nanobubbles / ml
- Oxygenation of any tank and any depth of water
- Increased nutrient absorption
- Promotion of beneficial bacteria, suppression of pathogens
- Easy integration with fertigation and climate control systems
- Auto gas shut off if loss of prime feed
- Low feed gas pressure sensor
- Optional: DO monitoring

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MODELS	Bloom 25	Bloom 50	Bloom 150
<b>LIQUID FLOW CAPACITY</b>			
Flow Rate, GPM (m <sup>3</sup> /hr)	25 (5.7)	50 (11)	150 (34)
Indicated Gas Flow Range Maximum, CFH (m <sup>3</sup> /hr)	2.5 (0.07)	5 (0.14)	10 (0.3)
Indicated Gas Flow Range Recommended, CFH (m <sup>3</sup> /hr)	0.25 (0.01)	0.5 (0.02)	1.5 (0.04)
<b>OPERATING PARAMETERS</b>			
Temperature Tolerance, PVC, °F (°C)		41 - 140 (5 - 60)	
Standard Oxygen Transfer Efficiency		> 90%	
Solids, inches (mm)		Up to 3/8 (10)	
<b>GAS FEED<sup>1</sup></b>			
Feed Gas Pressure Range Minimum, PSIG (bar)		100 (6.9)	
Feed Gas Pressure Range Maximum, PSIG (bar)		140 (9.7)	
<b>PUMP</b>			
Pump Model		Pentair Sparus 160	
Wetted Parts Materials		Polypropylene/316 SS/Buna	
Pump Motor, hp (kW)	0.5 (0.4)	0.75 (0.6)	3 (2.2)
Voltage	115	115/208-230	208-230
FLA	8.8 / 4.5-4.4	11.2 / 6.0-5.6	15 - 13.6
Phase	1	1	1
Frequency, Hz		50/60	
<b>CONTROLS</b>			
NEMA 12R Smart Controller		Timed Start / Stop	
		20 Times / Day	
Voltage		24V DC	
Power (Light)		On/Off DP	
Motor Starter		20 Amp W OL (120V)	
Start Switch		Latching (24V DC)	
Gas Pressure Alarm with Light		On/Off (24V DC)	
Pressure Gauges, PSI		Wika 2.5" (60/160)	
Rotameter, CFH	0 - 0.07	0 - 0.14	0 - 0.41
Dissolved Oxygen (DO) Sensor <sup>2</sup>		Optical, 0 - 50 ppm (+/- 1.5 ppm), 30 Second Response Time	
<b>CONNECTIONS - FNTF</b>			
Inlet, inches	2	2	2
Discharge, inches	1	1.5	2.5
Air Fitting for External Compressor, inches		CGA 022 fitting 1/4" MNPT x 9/16"-18 Regulating Valve	
<b>DIMENSIONS &amp; WEIGHT</b>			
Height, inches (cm)		34 (86)	
Width, Inches (cm)		20 (51)	
Length, inches (cm)		36 (91)	
Weight, lb (kg)	100 (45.3)	110 (48)	120(54)

**General Note**

3" inlet and outlet piping is recommended for the Bloom 150

Note 1: When using oxygen, Moleaer recommends CGA inlet 540, outlet 9/16" - 18RH pressure regulator with delivery range of 5-150 PSI (0.34-10.3 bar).

Note 2: **Bloom IQ** Option Integrated Dissolved Oxygen Optical Sensor Probe

